

FOR THE EXAMINER

EXAM. NUMBER:

Total
Marks


Coimisiún na Scrúduithe Stáit State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2005

MATHEMATICS – FOUNDATION LEVEL – (300 marks)

THURSDAY, 9 JUNE - MORNING, 9.30 TO 11.30

Time: 2 hours

Attempt **ALL** questions. Each question carries 50 marks.

Answers and supporting work should be written into the boxes provided.

Extra pages and graph paper can be obtained from the Superintendent, if needed.

The symbol indicates that supporting work must be shown to obtain full marks.

Make and model of calculator used:

For the Superintendent/Examiner use only:

Centre Stamp

Question	Mark
1	
2	
3	
4	
5	
6	
Total	
Grade	

1. (a)

$$(i) \quad 89 + 11 =$$

$$(ii) \quad 127 \times 5 =$$

(b)

$$(i) \quad 432 + 225 - 234 =$$

$$(ii) \quad 1242 \div 6 =$$

$$(iii) \quad (4 \cdot 2)^2 =$$

$$(iv) \quad \sqrt{12 \cdot 25} =$$

(c) (i) Find the total cost of

2 Chocolate Bars @ €1.20 each
3 Apples @ €0.45 each
2 Soft Drinks @ €1.10 each



$$\text{Chocolate Bars:} \quad €1.20 \times 2 =$$

$$\text{Apples:} \quad €0.45 \times 3 =$$

$$\text{Soft Drinks:} \quad €1.10 \times 2 =$$

$$\text{Total} =$$

(ii) I pay for these items with a €20 note. How much change do I get?



2. (a)

(i) $B = \{ \quad , \quad , \quad \}$

(ii) $A \cup B = \{ \quad , \quad , \quad , \quad \}$

(b) (i) Write $\frac{1}{4}$ as a percentage.

(ii) Without using a calculator, write $\frac{3}{8} - \frac{1}{4}$ as a single fraction.



Part (c) on next page

- (c) I invest €625 in a bank for two years at 4% per annum compound interest.

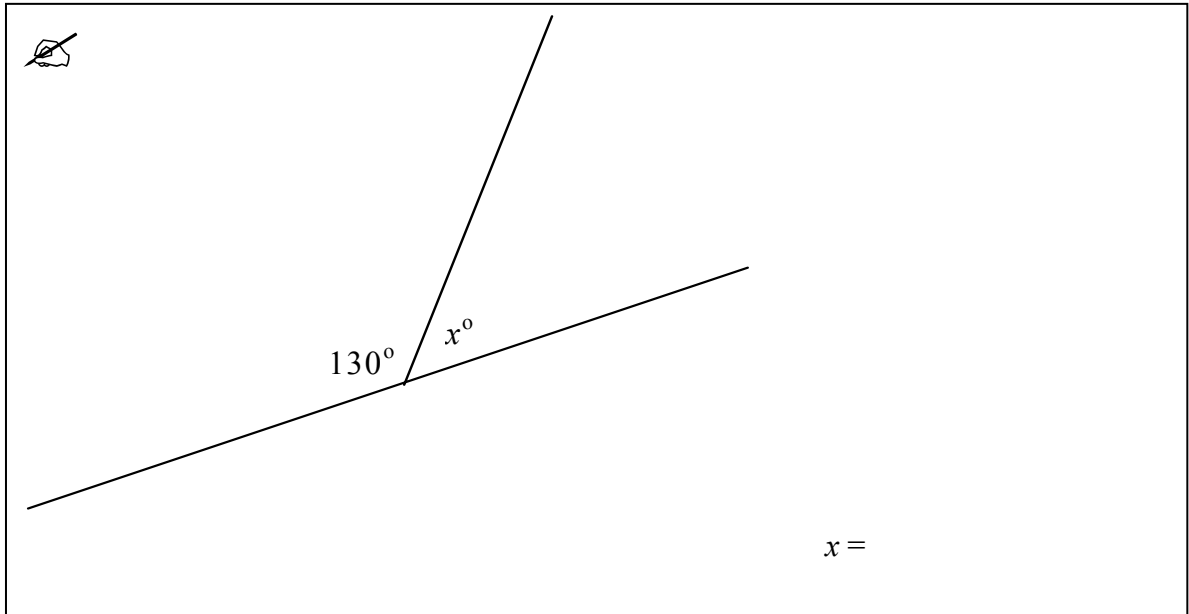


- (i) Calculate the interest earned at the end of the first year.

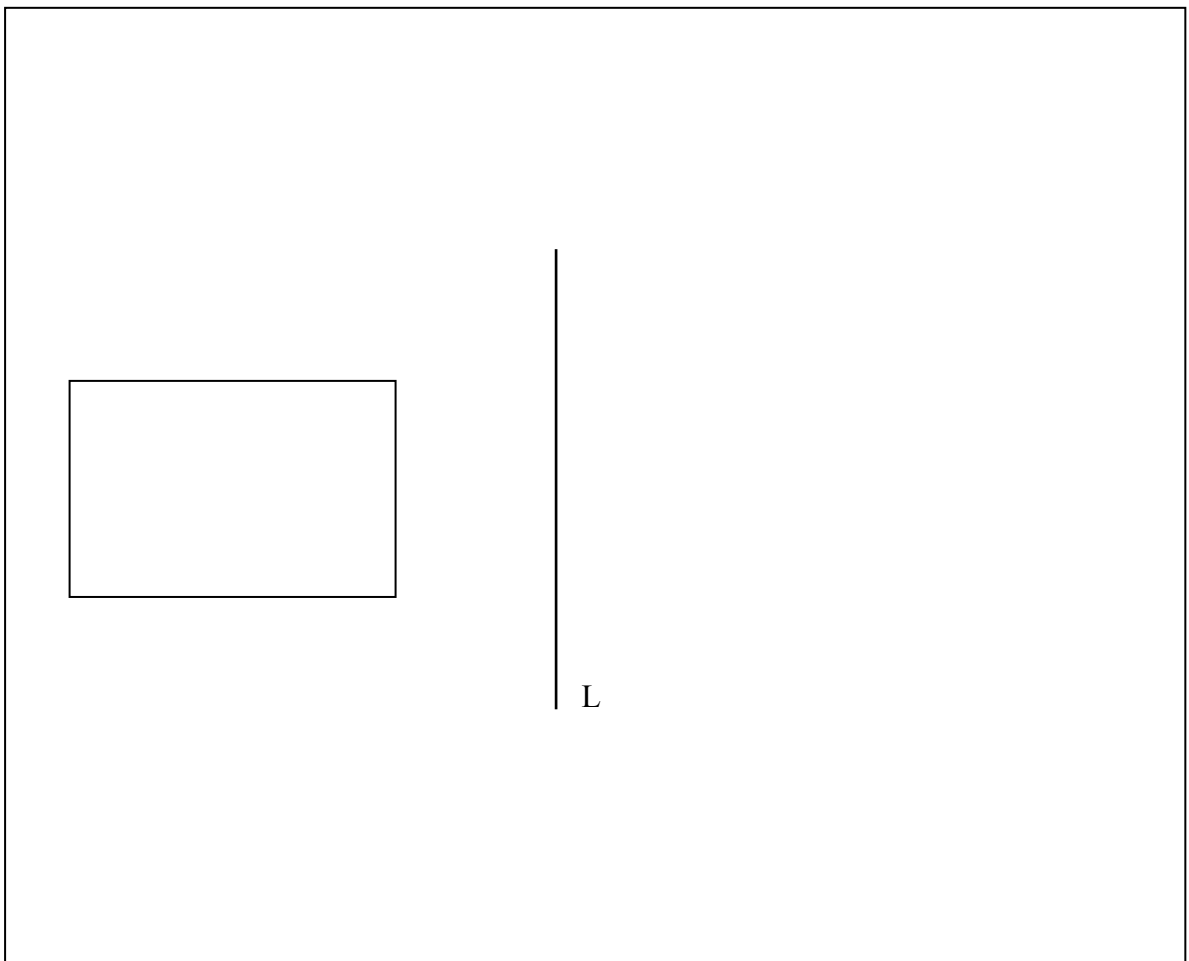


- (ii) Calculate the total interest earned at the end of the two years.

3. (a) Calculate the value of x in the diagram.

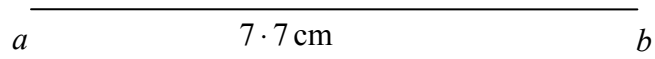


- (b) Construct the image of the rectangle under the axial symmetry in the line L.

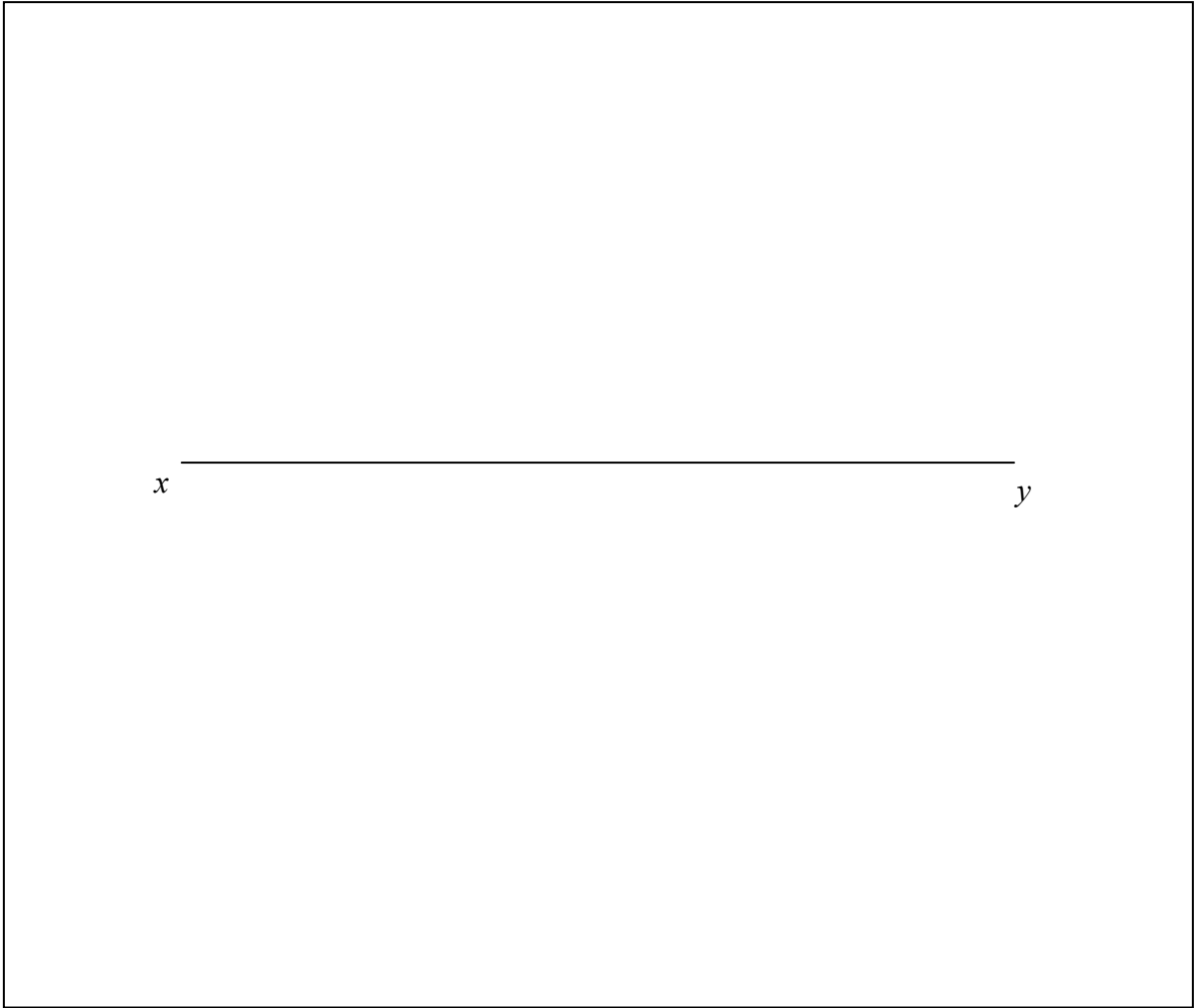


Part (c) on next page

- (c) (i) Construct a triangle abc with $|ab| = 7.7$ cm, $|ac| = 6$ cm and $|bc| = 4.5$ cm.



- (ii) Divide the line segment $[xy]$ into three equal parts.
Show all construction lines.



4. (a) Find the mean of the following numbers

16, 12, 14, 15, 8.



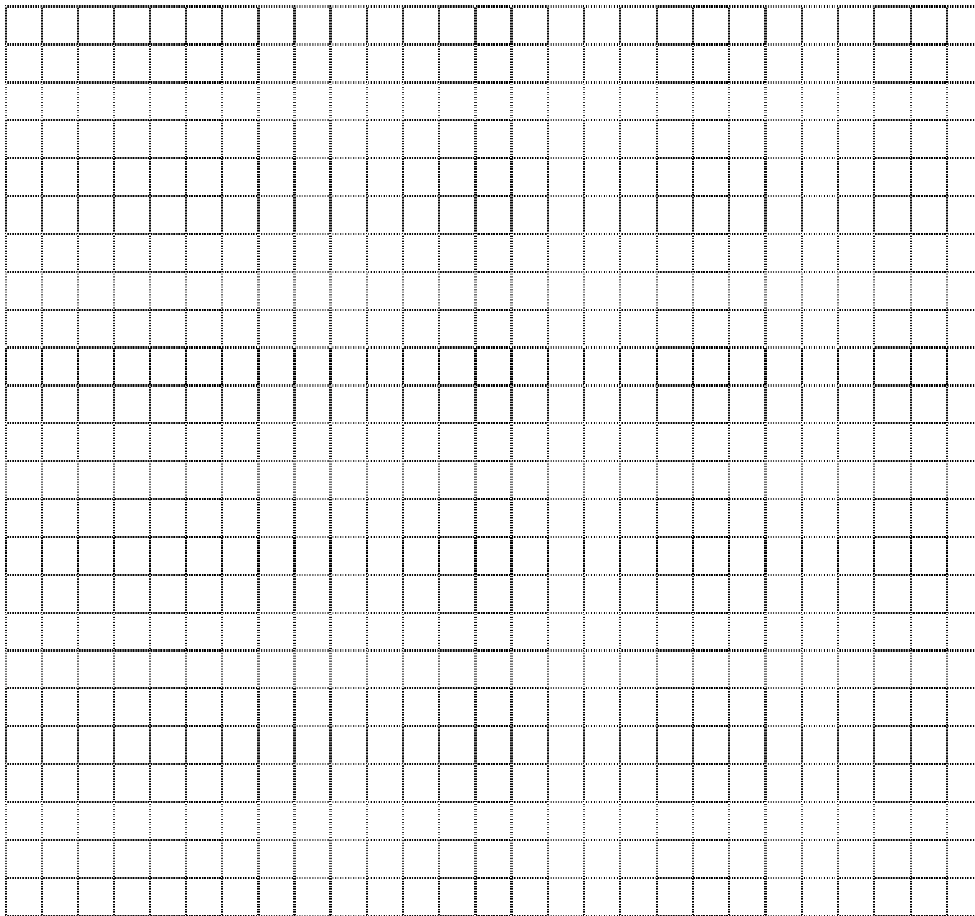
Part (b) on next page

- (b) The following table shows the temperature in a town in Ireland over a four-day period.

Day	Friday	Saturday	Sunday	Monday
Temperature	11	9	12	13

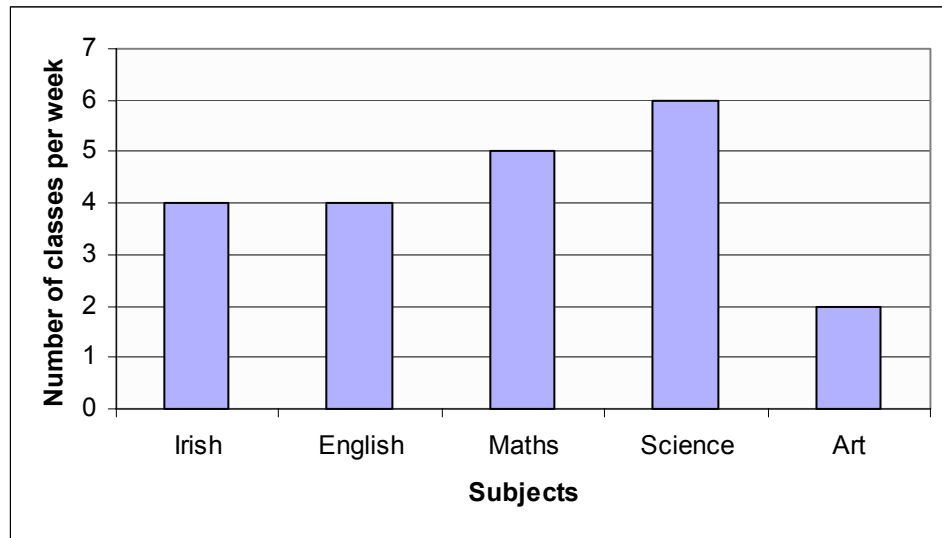


- (i) Draw a trend graph to represent this information.
Use the grid to draw your trend graph.



- (ii) What is the difference between the highest temperature and the lowest temperature?

- (c) The number of classes per week for five subjects in a school is shown in the bar chart below.



- (i) Which subjects have exactly 4 classes per week?


- (ii) Find the total number of classes per week given to the five subjects.



- (iii) Each class is 40 minutes long.
Find the total time per week given to Irish and Art.



5. (a) A film starts at 19:45 and lasts 1 hour 55 minutes.
At what time does the film finish?



- (b) A bus travels 210 km in 3 hours.



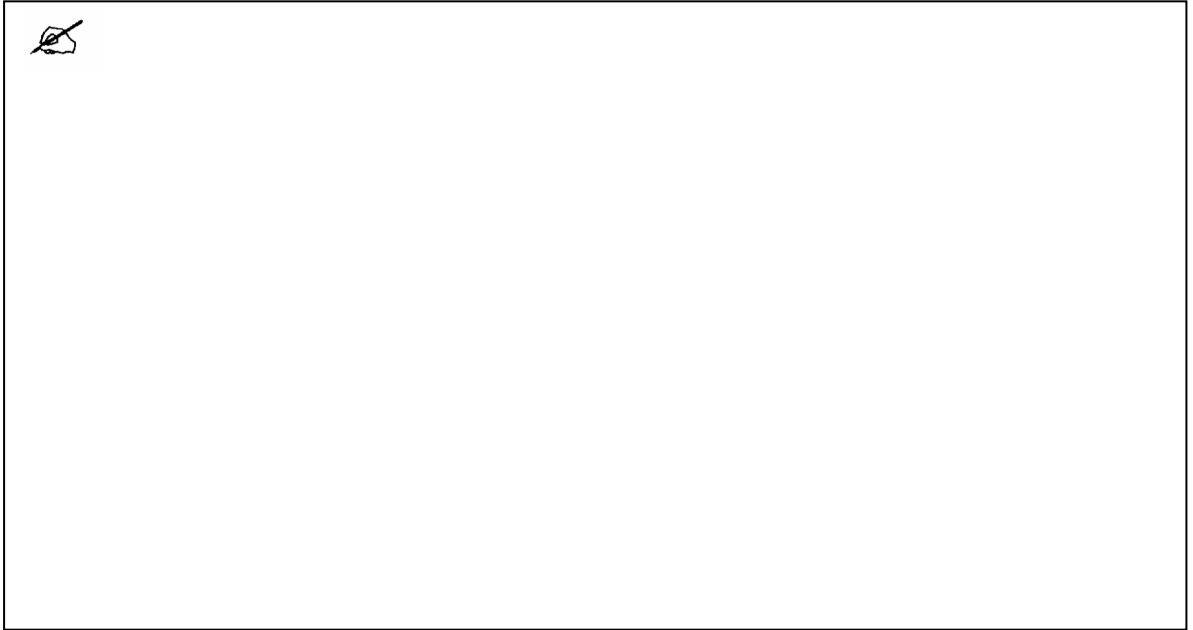
- (i) Calculate the average speed of the bus in km/h.



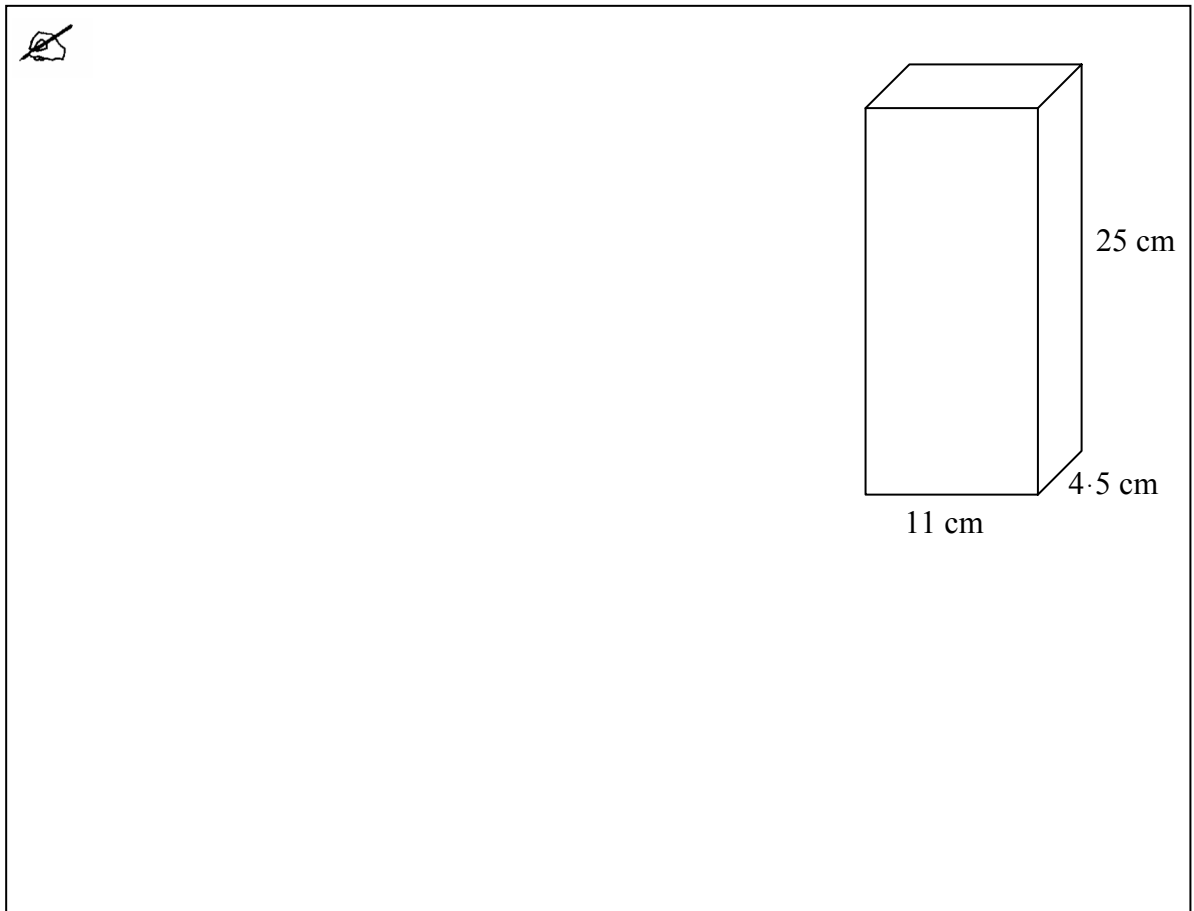
- (ii) Another bus travels the 210 km at an average speed of 60 km/h.
How long does this bus take to complete the 210 km?




- (c) (i) A disc has a radius of 7 cm.
Find the area of the disc, taking $\pi = 3.142$.



- (ii) A rectangular block measures 11 cm \times 4.5 cm \times 25 cm.
Calculate the volume of the block.




6. (a) Find the value of $3x + 5$ when $x = 4$.



A large empty rectangular box for writing the answer to question 6(a).

- (b) (i) Given that $y = 2x + 3$, complete the table below:

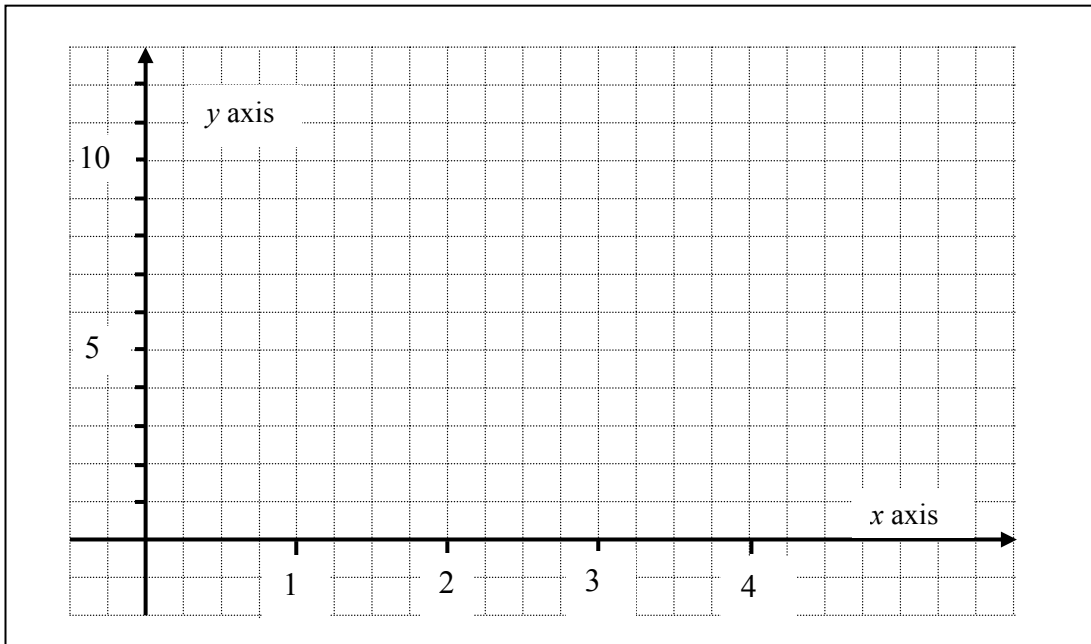
x	1	2	3	4
y				



A large empty rectangular box for writing the answer to question 6(b)(i).

Part (b) continues on next page

- (ii) Using your answers from (i), draw the graph of $y = 2x + 3$ from $x = 1$ to $x = 4$.

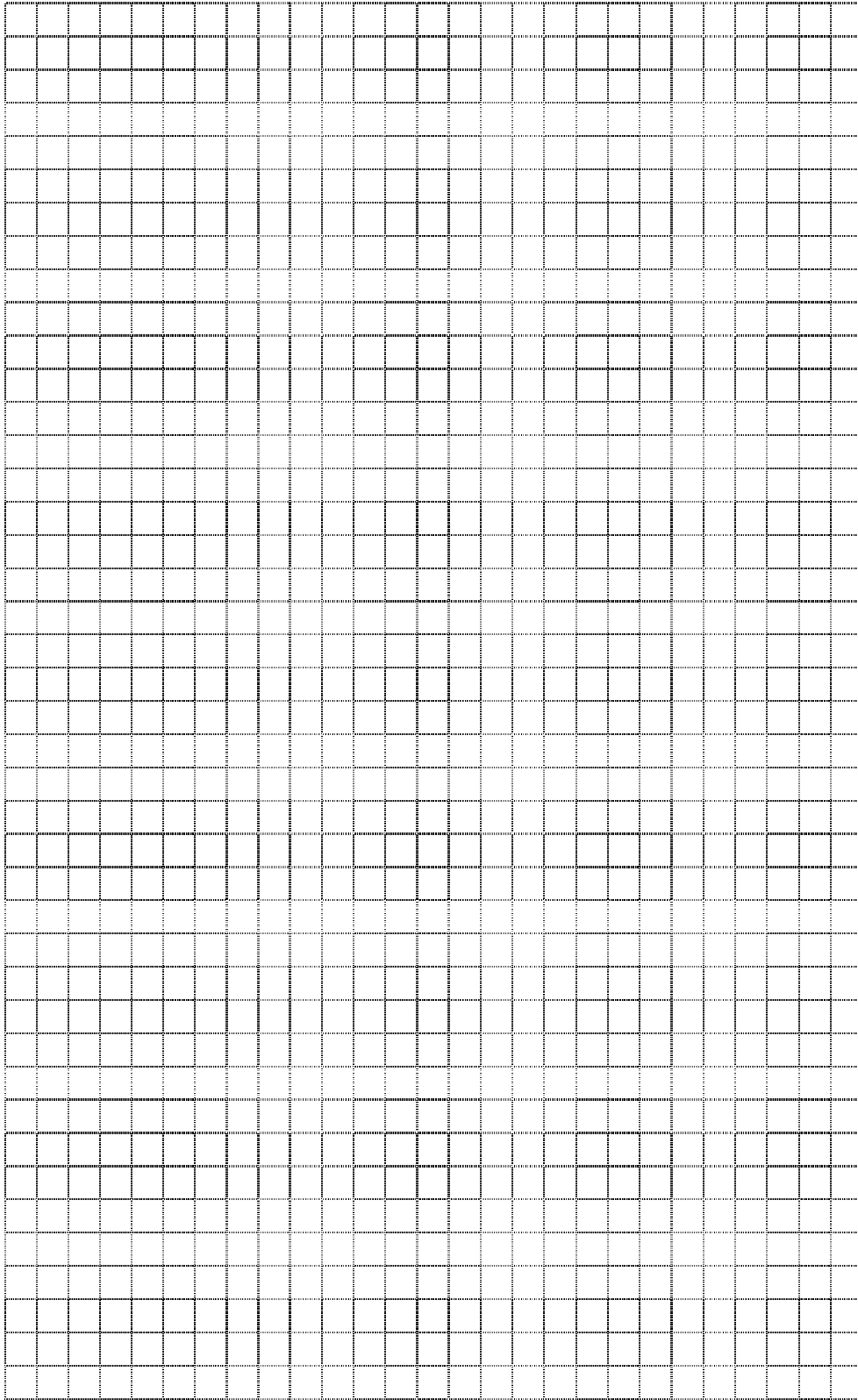


- (c) (i) Simplify $3(x + 5) + 2(x - 4)$.

- (ii) Solve for x :

$$6(x + 5) = 42$$

Space for extra work



Space for extra work

Space for extra work